Honeywell

T7411A / LF20 / LF20-C / C7068
DUCT TEMPERATURE SENSORS

T7411A
LF20   C7068   LF20-C

FEATURES

- **PT100, PT1000, or NTC20kΩ temperature sensing element**
- **Wide sensing range**
- **High accuracy**
- **Stainless steel probe**

SPECIFICATION

Nominal value

PT100	100 Ω at 0 °C
PT1000	1000 Ω at 0 °C
NTC20kΩ	20 kΩ at 25 °C

Accuracy

PT100 / PT1000	IEC751 Class B
	0.3 K +0.5% • |t| (t in °C)
NTC20kΩ	0.3 K +1% • |t - 25 °C| (t in °C)

Sensitivity

PT100	≈ 0.385 Ω / K
PT1000	≈ 3.85 Ω / K
NTC20kΩ	≈ -934.5 Ω / K at 25 °C (non-linear)

Response time (at air velocity of 5 m/s [16.4 ft/s])

LF20, LF20-C	$\tau_{0.5} \approx 42$ s
T7411	$\tau_{0.5} \approx 45$ s
C7068	$\tau_{0.5} \approx 4$ min (at 1 m/s [3.3 ft/s])

Electrical connection

T7411A/LF20	terminals for 2 x 1.5 mm² cable
LF20-C	5 m cable, 2-core, seawater-resistant, conduit M16x1,5
C7068	1.5-m cable, 2-core
C7068-5m	5-m cable, 2-core

Ambient Limits

Storage temperature	-35...+70 °C (-31…+158 °F)
Humidity (T7411, LF20)	5…95% rh, non-condensing

Safety (terminal box)
Protection standard

T7411A	IP54
LF20	IP30
LF20-C	IP65
C7068	IP54
Flame retardant	V1 as per UL94 Plastic (PC)

Dimensions — See Fig. 1 on page 2

GENERAL

The T7411A/LF20/LF20-C/C7068 Duct Temperature Sensors are used in ventilating and air conditioning systems to measure discharge, return, or outside air temperature. They are designed for duct mounting. The T7411A is available with two different probe lengths.

These sensors are used in the following control systems:

- Excel 5000
- MicroniK 200
- MicroniK 100
- Excel Classic
- Excel Plus
- High Performance Excel Plus
- Excel EMC

or other systems using PT100, PT1000, or NTC 20kΩ temperature sensing elements.

Further, the C7068 is also suitable for installation in fancoil units or at air outlets.

CE

EN0B-0361GE51 R0307

Models

OS number	sensor type	sensing range	length in mm (inches)	
			L1	**T1**
LF20	NTC20kΩ	-40...+80 °C	338 (13.30)	305 (12.00)
LF20-C	NTC20kΩ	-40...+80 °C	305 (12.00)	--
T7411A1001	PT1000	-40...+80 °C	185 (7.28)	152 (5.98)
T7411A1019	PT1000	-40...+80 °C	338 (13.30)	305 (12.00)
T7411A1043	PT100	-40...+80 °C	185 (7.28)	152 (5.98)
C7068A1007	NTC20kΩ	0...+70 °C	cable length: 1.5 m	
C7068A1007-5m	NTC20kΩ	0...+70 °C	cable length: 5 m	

DIMENSIONS OF T7411A / LF20
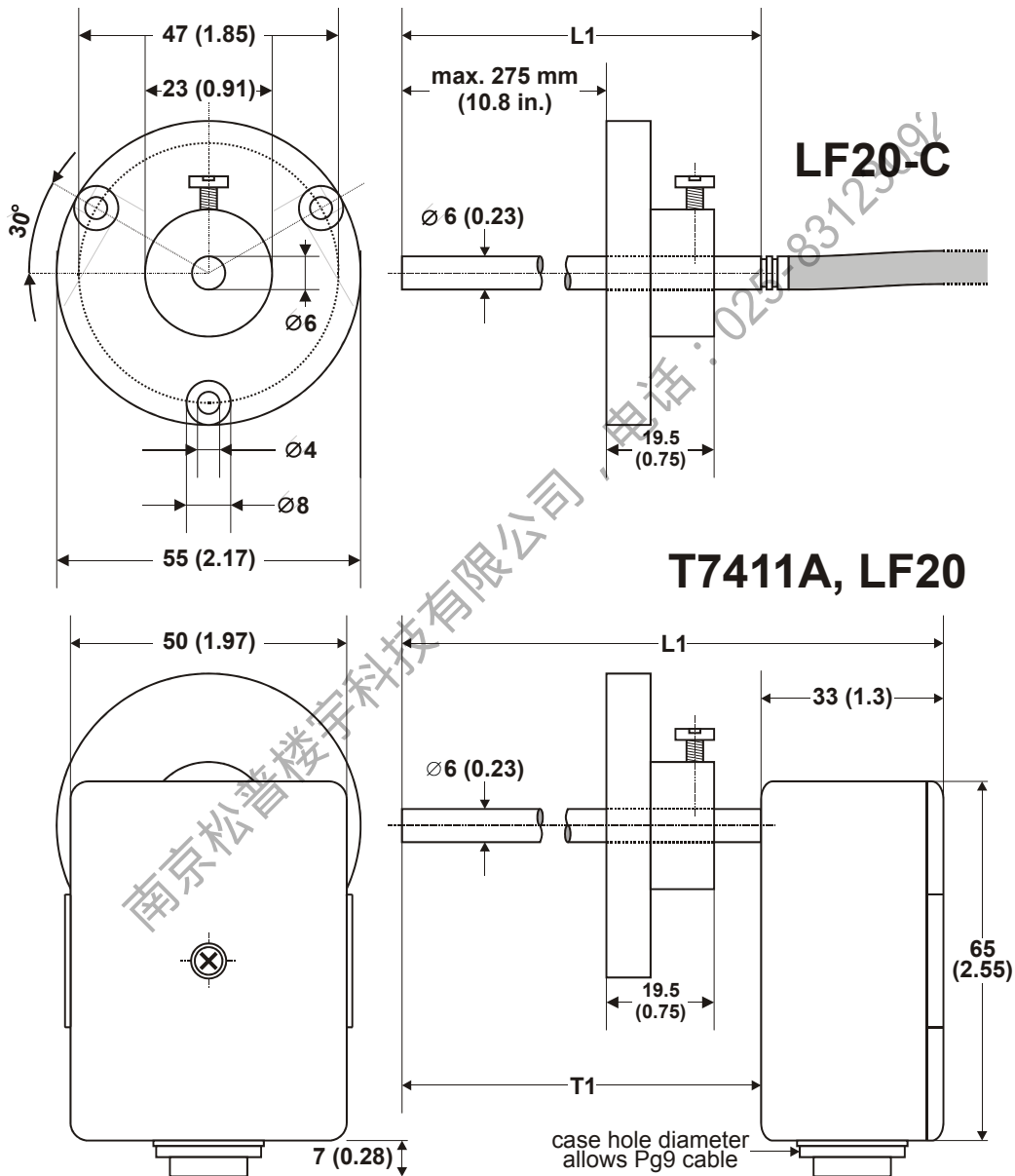
Fig. 1. Dimensions of T7411A / LF20 and LF20-C in mm (inches)

INSTALLATION

wiring run	max. length
sensor to controller	200 m (660 ft)

The temperature offset due to wire resistance per 10 m distance from sensor to controller, when using the T7411A (PT100 / PT1000) is stated in the following table:

type of wire	PT1000	PT100
0.5 mm^2 (AWG20)	0.18 °C (0.324 °F)	1.8 °C (3.24 °F)
1.0 mm^2 (AWG17)	0.09 °C (0.162 °F)	0.9 °C (1.62 °F)
1.5 mm^2 (AWG15)	0.06 °C (0.108 °F)	0.6 °C (1.08 °F)

NOTE: Use shielded wiring in areas with high EMI. Maintain a minimum distance of 15 cm (5.9'') between sensor lines and 230 Vac power lines.
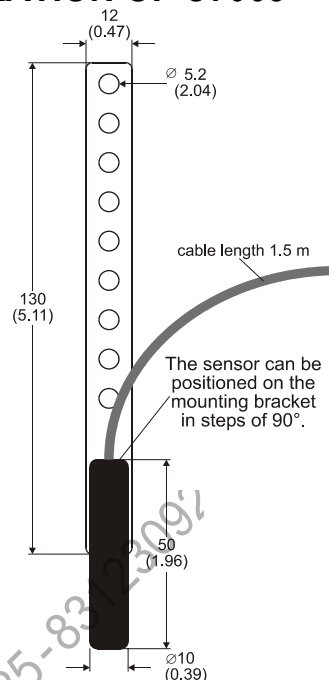
INSTALLATION OF C7068

Fig. 2. Installation of the C7068 in mm (inches)

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